

New York, 17 April-12 May 1995

MULTILATERAL NUCLEAR SUPPLY PRINCIPLES

Working paper submitted by Australia, Austria, Belgium, Bulgaria, Canada, the Czech Republic, Denmark, Finland, France, Germany, Hungary, Ireland, Italy, Japan, Luxembourg, the Netherlands, Norway, Poland, Portugal, Romania, the Russian Federation, the Slovak Republic, South Africa, Sweden, Switzerland, the United Kingdom of Great Britain and Northern Ireland and the United States of America as members of the Zangger Committee

INTRODUCTION

1. Main Committee II, one of three main committees of the 1990 Review Conference of the Parties to the Non-Proliferation Treaty (NPT), was responsible for reviewing the implementation of the Treaty in the areas of the non-proliferation of nuclear weapons and safeguards, in particular articles I, II and III and related preambular paragraphs. While the Conference did not adopt a final document, Main Committee II agreed on language pertaining to a number of ideas and proposals concerning these matters. The purpose of the present paper is to provide background and an update on developments since that time in one area addressed by Main Committee II, namely, nuclear supply.

2. Main Committee II recognized that the "non-proliferation and safeguards principles in the Treaty are essential for peaceful nuclear commerce and cooperation". By giving all States confidence that nuclear cooperation will take place in a manner consistent with the Treaty's objectives, the non-proliferation and safeguards principles of the Treaty facilitate such cooperation. Both nuclear suppliers and recipients are assured that supply will be used for strictly peaceful purposes, thereby helping to enhance global and regional stability.

3. The Committee agreed upon several important nuclear supply proposals. First, it noted the work of the NPT Exporters Committee, an informal group that has become known as the Zangger Committee, in interpreting article III, paragraph 2, of the Treaty, and urged all States to adopt its requirements for nuclear supply. By joining the Treaty, parties have already undertaken the obligations of article III, paragraph 2. This paper addresses this aspect of Main Committee II's language.



4. Second, Main Committee II recommended that parties to the treaty consider further ways to improve measures to prevent diversion of nuclear technology for nuclear weapons. Main Committee II itself identified two such ways. It urged nuclear supplier States to require acceptance by non-nuclear-weapon States of IAEA safeguards on all their peaceful nuclear activities as a condition for nuclear supply under new arrangements. It also called on States to coordinate their controls on the supply of equipment and material that are not identified under article III, paragraph 2, but are still relevant to nuclear weapons proliferation. The present paper presents information on the Zangger Committee's activities.

ZANGGER COMMITTEE

Article III, paragraph 2

5. Article III, paragraph 2 of the Treaty performs a vital function in helping to ensure the peaceful use of nuclear material and equipment. Specifically, it provides:

"Each State party to the Treaty undertakes not to provide: (a) source or special fissionable material, or (b) equipment or material especially designed or prepared for the processing, use, or production of special fissionable material, to any non-nuclear-weapon State for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards required by this article (IAEA safeguards)."

6. The main significance of this paragraph is that parties to the Treaty should not export nuclear commodities to non-nuclear-weapon States not parties to the Treaty, unless the export itself is subject to IAEA safeguards. This is an important provision because frequently such recipient countries have accepted no other nuclear non-proliferation obligations. By interpreting and implementing article III, paragraph 2, the Zangger Committee helps to prevent the diversion of safeguarded nuclear material from peaceful purposes to nuclear weapons or other nuclear explosive devices, which furthers the objectives of the Treaty and enhances the security of all parties to it.

Zangger Committee understandings

7. Between 1971 and 1974 a group of 15 States - some already parties to the Treaty, others prospective parties - held a series of informal meetings in Vienna chaired by Professor Claude Zangger of Switzerland. As suppliers or potential suppliers of nuclear material and equipment, their objective was to reach a common understanding on:

(a) The definition of what constituted "equipment or material especially designed or prepared for the processing, use or production of special fissionable material" (as it was not defined anywhere in the Treaty);

(b) The conditions and procedures that would govern exports of such equipment or material in order to meet the obligations of article III, paragraph 2 on a basis of fair commercial competition.

/...

8. The group, which came to be known as the Zangger Committee, decided that its status was informal and that its decisions would not be legally binding upon its members.

9. In 1974, the Committee reached consensus on basic "understandings" contained in two separate memoranda. Together, these memoranda form the guidelines of the Zangger Committee today. Each memorandum defines and provides for export controls on a category of commodities described in article III, paragraph 2; the first memorandum concerns source and special fissionable material (article III, paragraph 2 (a)), the second, equipment and material especially designed or prepared for the processing, use or production of special fissionable material (article III, paragraph 2 (b)).

10. The consensus which formed the basis of the Committee's understandings was formally accepted by individual States members of the Committee by an exchange of notes among themselves. These amounted to unilateral declarations that the understandings would be given effect through respective domestic export control legislation.

11. Memorandum A defines the following categories of nuclear material:

(a) Source material: natural or depleted uranium and thorium;

(b) Special fissionable material: plutonium-239, uranium-233, uranium enriched in the isotopes 235 or 233.

12. Memorandum B, as clarified since 1974 (see below), contains plants, equipment and material in the following categories: nuclear reactors, non-nuclear materials for reactors, reprocessing, fuel fabrication, uranium enrichment, and heavy water production.

13. To fulfil the requirements of article III, paragraph 2, the Zangger Committee "understandings" contain three basic conditions of supply for these items:

(a) For exports to a non-nuclear-weapon State not party to the Treaty, source or special fissionable material either directly transferred, or produced, processed, or used in the facility for which the transferred item is intended, shall not be diverted to nuclear weapons or other nuclear explosive devices;

(b) For exports to a non-nuclear-weapon State not party to the Treaty, such source or special fissionable material, as well as transferred equipment and non-nuclear material, shall be subject to safeguards under an agreement with IAEA;

(c) Source or special fissionable material, and equipment and non-nuclear material shall not be re-exported to a non-nuclear-weapon State not party to the Treaty unless the recipient State accepts safeguards on the re-exported item.

14. The understandings were formally accepted by individual States members of the Committee in an exchange of notes among themselves. In parallel with this procedure, most member States wrote identical letters to the Director General of

/...

IAEA informing him of their decision to act in conformity with the conditions set out in the understandings. These letters also asked the Director General to communicate their decision to all States members of the Agency, which he did in INFCIRC/209, dated 3 September 1974.

"Trigger list" and its clarification

15. As consolidated in 1990, the two memoranda became known as the "trigger list", since the export of listed items "triggers" IAEA safeguards. In other words, as described above, they will be exported only if (1) the transferred equipment or source or special fissionable material or (2) the material produced, processed or used in the facility for which the item is supplied is subject to Safeguards under an agreement with IAEA.

16. Attached to the trigger list is an annex "clarifying", or defining the equipment and material of memorandum B in some detail. The passage of time and successive developments in technology have meant that the Committee is regularly engaged in considering possible revisions to the trigger list, and the original annex has thus become increasingly detailed. To date, six clarification exercises have taken place, and another is under way. Clarifications are conducted on the basis of consensus, using the same procedure followed in the adoption of the original understandings.

17. A summary of these clarifications reflects both some detail on the contents of the trigger list and an idea of the work of the Zangger Committee (dates are for publication of modifications of INFCIRC/209):

(a) In December 1978, the annex was updated to add heavy water production plants and equipment, and a few specific items of isotope separation equipment for uranium enrichment;

(b) In February 1984, further detail was added to the annex to take account of technological developments during the preceding decade in the area of uranium enrichment by the gas centrifuge process;

(c) In August 1985, a similar clarification was made to the annex section on irradiated fuel reprocessing;

(d) In February 1990, the uranium enrichment section was further elaborated by the identification of items of equipment used for isotope separation by the gaseous diffusion method;

(e) In May 1992, specific items of equipment were added to the section on heavy water production;

(f) In April 1994, the enrichment section of the annex was subject to its most significant expansion yet. Existing portions of the section were updated, and detailed lists of equipment were added for the enrichment processes of aerodynamic, chemical and ion exchange, laser-based, plasma and electromagnetic separation. A significant modification was also made to the entry for primary coolant pumps.

/...

Currently, the Zangger Committee is reviewing the sections on reactors and fuel fabrication to determine whether clarification of these sections is warranted.

Membership

18. All Zangger Committee members are parties to the Treaty capable of supplying trigger list items. Currently there are 29 members (Australia, Austria, Belgium, Bulgaria, Canada, Czech Republic, Denmark, France, Finland, Germany, Greece, Hungary, Ireland, Italy, Japan, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Russian Federation, Slovak Republic, South Africa, Spain, Sweden, Switzerland, United Kingdom, United States). Any party that is an actual or potential nuclear supplier and is prepared to implement the Committee's understandings is eligible for membership. Decisions to invite new members of the Committee are taken by consensus of the existing members. In the interest of strengthening the Treaty and the nuclear non-proliferation regime in general, Zangger Committee members have urged parties to the Treaty that are nuclear suppliers to consider seeking membership. Parties interested in doing so may contact the Chairman of the Committee (Dr. F. W. Schmidt of Austria), the Secretariat (the United Kingdom Mission in Vienna), or any State member of the Committee.

Zangger Committee and NPT conferences

19. The introductory section referred to language agreed upon by Main Committee II in 1990. Previous NPT review conferences also adopted language on the activities of the Zangger Committee in their final documents. These statements are found in the attachment to the present paper.

20. At the first NPT Review Conference in 1975, a brief paragraph in the final document referenced the work of the Zangger Committee without naming it. Paraphrasing, that paragraph stated that, with regard to the implementation of article III, paragraph 2, the Conference noted that a number of nuclear suppliers had adopted certain minimum requirements for IAEA safeguards in connection with their nuclear exports to non-nuclear-weapon States. The Conference went on to attach particular importance to the fact that those suppliers had established as a supply condition an undertaking of non-diversion to nuclear weapons.

21. In 1980, the Review Conference produced no consensus final document. However, in 1985, the Final Document contained a short reference to the Committee's activities, again without naming it. This time the Conference in effect endorsed the main activity of the Zangger Committee by indicating that further improvement of the trigger list should take account of advances in technology.

22. Portions of the language agreed upon by Main Committee II in 1990 have already been summarized, but it is important to note that it mentioned the Zangger Committee by name and provided a brief description of its aims and practices. Main Committee II observed that Zangger Committee members have met regularly to coordinate the implementation of article III, paragraph 2, and have adopted nuclear supply requirements and a trigger list. It recommended that this list be reviewed periodically to take into account advances in technology

/...

and changes in procurement practices, a recommendation that the Zangger Committee has continued to pursue. Main Committee II also urged all States to adopt the Zangger Committee's requirements for any nuclear cooperation with a non-nuclear-weapon State not party to the Treaty.

Attachment

REFERENCES TO ZANGGER COMMITTEE ACTIVITIES IN
NPT REVIEW CONFERENCE DOCUMENTS

First NPT Review Conference (1975)

A paragraph in the Final Document referenced the work of the Zangger Committee without naming it:

"With regard to the implementation of article III, paragraph 2 of the Treaty, the Conference notes that a number of States suppliers of material or equipment have adopted certain minimum, standard requirements for IAEA safeguards in connection with their exports of certain such items to non-nuclear-weapon States not parties to the Treaty (IAEA document INFCIRC/209 and addenda). The Conference attaches particular importance to the condition, established by those States, of an undertaking of non-diversion to nuclear weapons or other nuclear explosive devices, as included in the said requirements." (NPT/CONF/35/I, annex I)

Third NPT Review Conference (1985)

The 1980 NPT Review Conference produced no final document, but the 1985 Final Document contained a reference to the Committee without naming it:

"The Conference believes that further improvement of the list of materials and equipment which, in accordance with article III, paragraph 2, of the Treaty, calls for the application of IAEA safeguards should take account of advances in technology." (NPT/CONF.III/64/I, annex I, para. 13)

Fourth NPT Review Conference (1990)

While the Conference did not adopt a final document, Main Committee II did agree on a number of ideas and proposals, including the following language on the Zangger Committee:

"The Conference notes that a number of States parties engaged in the supply of nuclear material and equipment have met regularly as an informal group which has become known as the Zangger Committee in order to coordinate their implementation of article III, paragraph 2. To this end these States have adopted certain requirements, including a list of items triggering IAEA safeguards, for their export to non-nuclear-weapon States not parties to the Treaty, as set forth in IAEA document INFCIRC/209 as revised. The Conference urges all States to adopt these requirements in connection with any nuclear cooperation with non-nuclear-weapon States not parties to the Treaty. The Conference recommends that the list of items triggering IAEA safeguards and the procedures for implementation be reviewed from time to time to take into account advances in technology and changes in procurement practices. The Conference recommends the States parties to consider further ways to improve the measures to prevent diversion of nuclear technology for nuclear weapons, other nuclear explosive purposes or nuclear weapon

/...

capabilities. While recognizing the efforts of the Zangger Committee in the non-proliferation regime, the Conference also notes that items included in the 'trigger list' are essential in the development of nuclear energy programmes for peaceful uses. In this regard, the Conference requests that the Zangger Committee should continue to take appropriate measures to ensure that the export requirements laid down by it do not hamper the acquisition of such items by States parties for the development of nuclear energy for peaceful uses." (NPT/CONF.IV/DC/1/Add.3(a), para. 27)
